WHAT IS CLAIMED IS:

1. A coated metal substrate for use in the catalytic reduction of engine exhaust emissions comprising a metal substrate having an alumina-silicate coating thereon, said alumina-silicate coating having alumina particles dispersed therein.

2. The substrate of claim 1 further comprising at least one top layer comprising an engine exhaust treatment catalyst.

3. The substrate of claim 2 wherein the catalyst comprises a three-way conversion catalyst.

4. The substrate of claim 1 wherein the metal substrate comprises a metal selected from the group consisting of a stainless steel, a carbon steel, titanium, a FeCr alloy and Hastelloy.

5. The substrate of claim 4 wherein the metal substrate comprises a stainless steel.

6. The substrate of claim 1 wherein the alumina particles have a particle size in the range of about 5 to about 15 microns.

7. The substrate of claim 6 wherein the alumina particles have a particle size in the range of 6 to 9 microns.

8. The substrate of claim 1 wherein the alumina particles are present in an amount of about 0.1 to about 0.5 g/in^2 of the alumina-silicate coating.

9. The substrate of claim 1 wherein the metal substrate is employed in the form of an expansion cone or exhaust gas silencer.

10. The substrate of claim 9 wherein the expansion cone has a length of about 100 to about 300 mm, a diameter ranging from about 30 to about 100 mm, a thickness of about 0.5 to about 3 mm and an inside surface area of about 0.03 to about 0.06 m^2.

11. A method for preparing a coated metal substrate for use in the catalytic reduction of engine exhaust emissions comprising the steps of:

(a) coating a metal substrate with a liquid dispersion containing an aluminum silicate;

(b) impregnating the coated metal substrate resulting from step (a) with alumina particles, while the aluminum silicate coating on the metal substrate is still wet; and

(c) calcining the coated metal substrate resulting from step (b).

12. The method of claim 11 wherein step (c) is carried out at a temperature of about 350 to about 550° C for about 0.25 to about 2 hours.

13. The method of claim 11 further comprising applying a washcoat comprising an engine exhaust treatment catalyst to the coated metal substrate resulting from step (c).

14. The method of claim 13 wherein the catalyst comprises a three-way conversion catalyst.

15. The method of claim 11 wherein the metal substrate comprises a metal selected from the group consisting of a stainless steel, a carbon steel, titanium, a FeCr alloy and Hastelloy.

16. The method of claim 15 wherein the metal substrate comprises a stainless steel.

17. The method of claim 11 wherein the alumina particles have a particle size in the range of about 5 to about 15 microns.

18. The method of claim 17 wherein the alumina particles have a particle size in the range of 6 to 9 microns.

19. The method of claim 11 wherein the alumina particles are present in an amount of about 0.01 to about 0.5 g/in^2 of the aluminum silicate coating.

20. The method of claim 11 wherein the metal substrate is employed in the form of an expansion cone or exhaust gas silencer.

21. The method of claim 19 wherein the expansion cone has a length of about 200 to about 300 mm, a diameter ranging from about 30 to about 100 mm, a thickness of about 0.5 to about 3 mm and an inside surface area of about 0.03 to about 0.06 m^2.

22. The method of claim 11 wherein the liquid dispersion comprises the following components in the indicated amounts:

component	amount, wt.%
sodium potassium aluminum silicate	about 40 to about 45
water	about 35 to about 40
acrylic copolymer	about 1 to about 5
chromia titania frit	about 1 to about 5
aluminum oxide	about 1 to about 5
potassium hydroxide	about 1 to about 5
amorphous silica	about 1 to about 5
cobalt oxide	about 1 to about 5

23. The method of claim 11 wherein the liquid dispersion comprises the following components in the indicated amounts:

component	amount, wt.%
silicon carbide	about 45 to about 50
water	about 20 to about 26
aluminum phosphate	about 10 to about 15
amorphous silicon oxide binders	about 2 to about 6
boric acid	about 1 to about 3
ethyl alcohol	about 3 to about 7
mullite	about 4 to about 6